

Application Number: 10/561,705  
Reply Dated: July 19, 2010  
Office Action Dated: February 18, 2009

### **REMARKS**

This paper is responsive to the Office Action dated February 18, 2010, for which a three (3) month period of response was given. A Petition and fee for a two (2) month extension of time accompany this paper. Also enclosed herewith is a Request for Continued Examination (RCE) and fee for same. Since July 18, 2010 was a Sunday, this paper and any accompanying papers are timely filed on Monday, July 19, 2010. Should any additional fees be due, the Commissioner is hereby authorized to treat this paper as a Petition for any needed extension of time and to charge any fees due to Deposit Account No. 50-0959, Attorney Docket No. 089498.0482.

Claims 1 through 30 are pending in the present application. Claims 1, 6, 13 and 25 have been amended to more clearly state that nature of the present invention. Support for the amendments to claims 1, 6, 13 and 25 exists in the specification as filed. Accordingly, no new matter has been added. As such, entry and consideration of the amendments to the claims, the new claims, and the new title is believed due and is respectfully requested.

#### **I. The Telephone Interview:**

Applicants' undersigned representative would like to thank Examiner Zemel for participating in a telephone interview on June 21, 2010. During the telephone interview the undersigned and Examiner Zemel discussed the fact that none of the cited art discloses, teaches or suggests a multi-arm star block copolymer composition of matter that contains a cycloolefin or polycycloolefin segment that is formed from a norbornadiene compound as recited in pending claims 1, 12, 13 and 20. Given this, claims 1 and 13 have been amended to eliminate the non-norbornadiene embodiments.

#### **II. The 35 U.S.C. § 112, First Paragraph, Rejection:**

Claims 6 and 25 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner contends that there is no support for the acronym PEB in claims 6 and 25.

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In view of the above, claims 6 and 25 have been amended to replace PEB with the acronym PIB, which is fully and completely supported by the specification as filed.

Accordingly, in light of the amendments made to claims 6 and 25, the 35 U.S.C. § 112, first paragraph, rejection of claims 6 and 25 has been rendered moot. Accordingly, withdrawal thereof is believed due and is respectfully requested.

III. The 35 U.S.C. § 112, Second Paragraph, Rejection:

Claims 6 and 25 have been rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Specifically, the Examiner contends that the acronym PEB in claims 6 and 25 renders these claims indefinite.

In view of the above, claims 6 and 25 have been amended to replace PEB with the acronym PIB, which is fully and completely supported by the specification as filed.

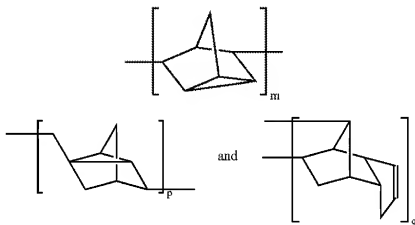
Accordingly, in light of the amendments made to claims 6 and 25, the 35 U.S.C. § 112, second paragraph, rejection of claims 6 and 25 has been rendered moot. Accordingly, withdrawal thereof is believed due and is respectfully requested.

IV. The 35 U.S.C. § 102(b) Rejections:

Claims 1 through 5, 7, 9 through 12, 14 through 19, 20 through 26 and 28 through 30 have been rejected under 35 U.S.C. § 102(b) over EP 0 949 282 (hereinafter EP '282).

EP '282 discloses a process for producing an isobutylene block copolymer, which comprises performing cationic polymerization of a monomer component containing isobutylene as a major monomer and a monomer component whose major monomer is not isobutylene in the presence of an initiator, wherein the polymerization is carried out in a mixed solvent containing a monohalogenated hydrocarbon solvent and a non-halogenated hydrocarbon solvent, the monohalogenated hydrocarbon solvent containing a primary monohalogenated hydrocarbon having three to eight carbon atoms and/or a secondary monohalogenated hydrocarbon having three to eight carbon atoms, the non-halogenated hydrocarbon solvent containing an aliphatic hydrocarbon and/or an aromatic hydrocarbon.

However, EP '282 does not disclose, teach or suggest a multi-arm star block copolymer comprising: an aromatic core having one or more arms extending therefrom; wherein each of the one or more arms are formed from a polyisobutylene segment and a cycloolefin or polycycloolefin segment derived from a **norbornadiene compound**, wherein the polyisobutylene segment and the cycloolefin or polycycloolefin segment form a repeating unit multiblock copolymer, wherein the cycloolefin or polycycloolefin segment is selected from one or more of the following formulas:



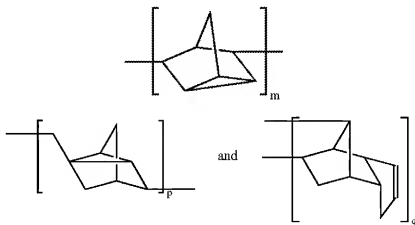
wherein m, p and q are all independently-selected integers that are at least 1 (emphasis supplied). Additionally, EP '282 does not disclose, teach or suggest a method of preparing a composition of matter, where the process comprises, among other steps, providing a bifunctional aromatic core. As is well known to those of skill in the art, norbornene and norbornadiene are vastly different classes of compounds. As such, this disclosure by EP '282 of a norbornene embodiment cannot anticipate, or render obvious, claims 1 through 5, 7, 9 through 12, 14 through 19, 20 through 26 and 28 through 30.

Since EP '282 fails to disclose, teach or suggest each and every feature of pending claims 1, 12 and 20, EP '282 cannot anticipate, or render obvious, claims 1 through 5, 7, 9 through 12, 14 through 19, 20 through 26 and 28 through 30. As such, withdrawal of the 35

U.S.C. § 102(b) rejection of claims 1 through 5, 7, 9 through 12, 14 through 19, 20 through 26 and 28 through 30 over EP '282 is believed due and is respectfully requested.

Claims 1, 7 and 9 through 11 have been rejected under 35 U.S.C. § 102(b) over Kennedy et al. (United States Patent No. 5,804,664). Kennedy et al. discloses the synthesis and characterization of novel linear polymers and multi-arm star polymers comprising polyisobutylene arms connected to a well-defined calixarene core are described. As is known to those of skill in the art, calixarene is tri-functional and at least one functionality is attached via a linking oxygen atom.

However, Kennedy et al. does not disclose, teach or suggest a multi-arm star block copolymer comprising: an aromatic core having one or more arms extending therefrom; wherein each of the one or more arms are formed from a polyisobutylene segment and a cycloolefin or polycycloolefin segment derived from a norbornadiene compound, wherein the polyisobutylene segment and the cycloolefin or polycycloolefin segment form a repeating unit multiblock copolymer, wherein the cycloolefin or polycycloolefin segment is selected from one or more of the following formulas:



wherein m, p and q are all independently-selected integers that are at least 1 (emphasis supplied). Additionally, Kennedy et al. does not disclose, teach or suggest a method of preparing a composition of matter, where the process comprises, among other steps,

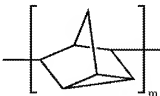
providing a bifunctional aromatic core. As is well known to those of skill in the art, norbornene and norbornadiene are vastly different classes of compounds. As such, this disclosure by Kennedy et al. of a norbornene embodiment cannot anticipate, or render obvious, claims 1, 7 and 9 through 11.

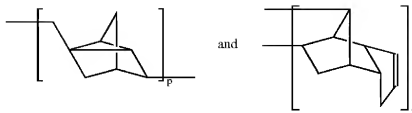
Since Kennedy et al. fails to disclose, teach or suggest each and every feature of pending claim 1, Kennedy et al. cannot anticipate, or render obvious, claims 1, 7 and 9 through 11. As such, withdrawal of the 35 U.S.C. § 102(b) rejection of claims 1, 7 and 9 through 11 over Kennedy et al. is believed due and is respectfully requested.

V. The 35 U.S.C. § 103(a) Rejection:

Claims 6, 8, 13 and 27 have been rejected under 35 U.S.C. § 103(a) over EP 0 949 282 (hereinafter EP '282). The teachings and shortcomings of EP '282 are discussed in detail above.

As noted above, EP '282 does not disclose, teach or suggest a multi-arm star block copolymer comprising: an aromatic core having one or more arms extending therefrom; wherein each of the one or more arms are formed from a polyisobutylene segment and a cycloolefin or polycycloolefin segment derived from a **norbornadiene compound**, wherein the polyisobutylene segment and the cycloolefin or polycycloolefin segment form a repeating unit multiblock copolymer, wherein the cycloolefin or polycycloolefin segment is selected from one or more of the following formulas:





wherein m, p and q are all independently-selected integers that are at least 1 (emphasis supplied). Additionally, EP '282 does not disclose, teach or suggest a method of preparing a composition of matter, where the process comprises, among other steps, providing a bifunctional aromatic core. As is well known to those of skill in the art, norbornene and norbornadiene are vastly different classes of compounds. As such, this disclosure by EP '282 of a norbornene embodiment cannot render obvious claims 6, 8, 13 and 27.

Since EP '282 fails to disclose, teach or suggest each and every feature of pending claims 1, 12 and 20, EP '282 cannot render obvious claims 6, 8, 13 and 27. As such, withdrawal of the 35 U.S.C. § 103(a) rejection of claims 6, 8, 13 and 27 over EP '282 is believed due and is respectfully requested.

#### VI. Conclusion:

Accordingly, reconsideration and withdrawal of the pending 35 U.S.C. § 112, second paragraph, rejections, the 35 U.S.C. § 102(b) rejections, and the 35 U.S.C. § 103(a) rejection of claims 1 through 19 are believed due and is respectfully requested.

For at least the foregoing reasons, claims 1 through 30 of the present application are believed to be in condition for allowance, and a Notice of Allowance is respectfully requested.

Application Number: 10/561,705  
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Should the Examiner wish to discuss any of the foregoing in more detail, the undersigned attorney would welcome a telephone call.

Respectfully submitted,

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